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PROVISIONAL SPECIFICATION.

Improved Nippers or Forceps for Dental Purposes.

I, VALENTIN GLATTER, of 181 Rosengasse, Leitomischl, Bohemia, in the Empire of Austria, do hereby declare the nature of this invention to be as follows:—

This invention relates to nippers or forceps designed for the removal of the crowns of teeth.

- 5 In order to enable broken teeth to be rapidly and neatly levelled or made even without causing pain by removing the projecting crowns or crown pieces, I have devised two pairs of nippers or forceps, one pair of which is used for the teeth in the upper jaw and the other pair for those in the lower jaw.

- 10 In both pairs of nippers or forceps the principle of construction is the same, and is designed to enable them to act with great accuracy and expedition, and to be operated with facility.

The pair of nippers or forceps used for the lower teeth comprises two parts, one of which receives two cutters and the other is provided with a tappet or cam for effecting the movement of one of the said cutters.

- 15 On the upper portion of the former part are two cheeks which are connected below and serve as lateral guides for the two cutters.

These cutters are provided with sharp edges that are placed exactly opposite each other.

- 20 In mounting the nippers or forceps the lower of the two cutters which constitutes a slide is inserted between the aforesaid cheeks so that its lower bearing surface will be upon the bearing surface in the head of the upper part of the nippers or forceps. After this the upper cutter is placed with its lower bearing surface upon the upper bearing surface of the said sliding cutter and is secured in its place through the medium of a pin.

- 25 The tongue provided on the lower part is then inserted between the cheeks of the upper part of the nippers or forceps in such a manner that the cam or tappet on the lower part engages with a claw of the sliding cutter and the lower part is secured in its place by means of a pin. The nippers or forceps are now ready for use.

- 30 If the crown of a tooth is to be removed, the said two parts of the nippers or forceps are opened whereby the lower or sliding cutter is drawn back. The upper cutter is then lightly pressed against the tooth, and the two handles of the nippers or forceps are caused to approach each other, thereby cutting through the crown without pain and without shaking the root of the teeth.

- 35 In this pair of nippers or forceps the cutting movement is one-sided only, that is to say only one cutter is caused to move in the cutting action. In the other pair of nippers hereinafter described movement is imparted to both cutters.

- 40 Both parts of the nippers or forceps are provided with cheeks and one or the first part receives the two cutters in a slit formed therein whereas the other or second part encloses the former part in a slit. The two cutters are provided with incisions or notches which are opposite two guide slits provided in the head of the aforesaid first part of the nippers or forceps.

The second of these nippers or forceps has holes for the insertion of pins that are adapted to move in the notches. A bolt or pin connects the halves or parts and also serves as the fulcrum for the shanks of the nippers or forceps.

- 45 On opening the handles the two cutters will likewise open, and the cutting is effected by pressing the two handles together in the opposite direction.

A special advantage of the improved nippers or forceps consists in the facility with

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which the cutters can be exchanged to suit the various sizes of teeth, as for this purpose it is only necessary to remove a pin in either pair of nippers or forceps.

Dated this 28th day of July 1888.

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, Agents for the Applicant. 5

COMPLETE SPECIFICATION.

Improved Nippers or Forceps for Dental Purposes.

I VALENTIN GLATTER, of 181 Rosengasse, Leitomischl, Bohemia, in the Empire of Austria, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :— 10

This invention relates to nippers or forceps designed for the removal of the crowns of teeth.

In order to enable broken teeth to be rapidly and neatly levelled or made even without causing pain by removing the projecting crowns or crown pieces, I have devised two pairs of nippers or forceps, one pair of which is used for the teeth of the upper jaw and the other pair for those of the lower jaw. 15

In both pairs of nippers or forceps the principle of construction is the same, and is designed to enable them to act with great accuracy and expedition and to be operated with facility. 20

In the accompanying drawing

Figure 1 is a side elevation of a pair of nippers or forceps designed for operating upon the teeth of the lower jaw.

Figure 2 shows the form of the pair for operating upon the teeth of the upper jaw. 25

Figures 3, 4, 5, 6 and 7 represent details of the nippers or forceps shown in Figure 1, and

Figures 8, 9, 10 and 11 show details of the nippers or forceps represented in figure 2.

As shown in Figure 1 the pair of nippers or forceps used for the lower teeth comprises two parts one *a* Figure 5 of which receives two cutters *b* and *c* (Figures 3 and 4) and the other *d* of which is provided with a tappet or cam *e* Figure 6 designed for effecting the movement of one of the said cutters *c*. 30

On the upper portion of the part *a*, Figure 5 are two lateral surfaces *g* and *g*¹ which are connected below at *f* and serve as lateral guides for the two cutters, *b* and *c*. 35

These cutters are provided with sharp edges, Figure 7, which are placed exactly opposite each other.

In mounting the nippers or forceps the lower cutter *c* which constitutes a slide is inserted between the aforesaid cheeks *g* and *g*¹ so that its lower bearing surface will be upon the bearing surface *f* in the head of the upper part of the nippers or forceps. After this the upper cutter is placed with its lower bearing surface upon the upper bearing surface of the said sliding cutter *c* and is secured in its place through the medium of a pin *h*. The tongue *i* provided on the lower part *d* is then inserted between the cheeks of the upper part of the nippers or forceps in such a manner that the cam or tappet *e* on the lower part engages with a claw *c*¹ of the sliding cutter *c* and the lower part *d* is secured in its place by means of a pin *l*. The nippers or forceps are now ready for use. 45

If the crown of a tooth is to be removed, the said two parts *a* and *d* of the nippers or forceps are opened as shown in dotted lines in Figure 1 whereby the lower or sliding cutter *c* is drawn back. The upper cutter is then lightly pressed against the tooth, and the two handles *a* and *d* of the nippers or forceps are caused to approach each other, thereby cutting through the crown without pain and without shaking the root of the tooth. 50

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In this pair of nippers or forceps the cutting movement is one-sided only that is to say only one cutter is caused to move in the cutting action.

In the pair of nippers or forceps represented in figure 2 both cutters are moved.

5 Both parts *a* and *d* of the nippers or forceps are provided with cheeks and one or the first part *a* receives the two cutters *b* and *c* in a slit *m* formed therein whereas the part *d* encloses the part *a* in a slit. The two cutters *b* and *c* are provided with incisions or notches *n* and *o* which are opposite two guide-slits *p* and *q* provided in the head of the aforesaid first part *a* of the nippers or forceps.

10 The second part *d* of these nippers or forceps has holes *r* and *s* for the insertion of pins which are adapted to move in the notches *n* and *o*. A bolt or pin *t* connects the halves or parts *a* and *d* and also serves at the same time as the fulcrum for the shanks of the nippers or forceps.

On opening the handles *a* and *d* the two cutters *b* and *c* will likewise open and the cutting is effected by pressing the two handles together in the opposite direction.

15 A special advantage of the improved nippers or forceps consists in the facility with which the cutters can be exchanged to suit the various sizes of teeth, as for this purpose it is only necessary to remove a pin *h* in one pair and the pin *s* in the other pair of nippers or forceps.

20 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :—

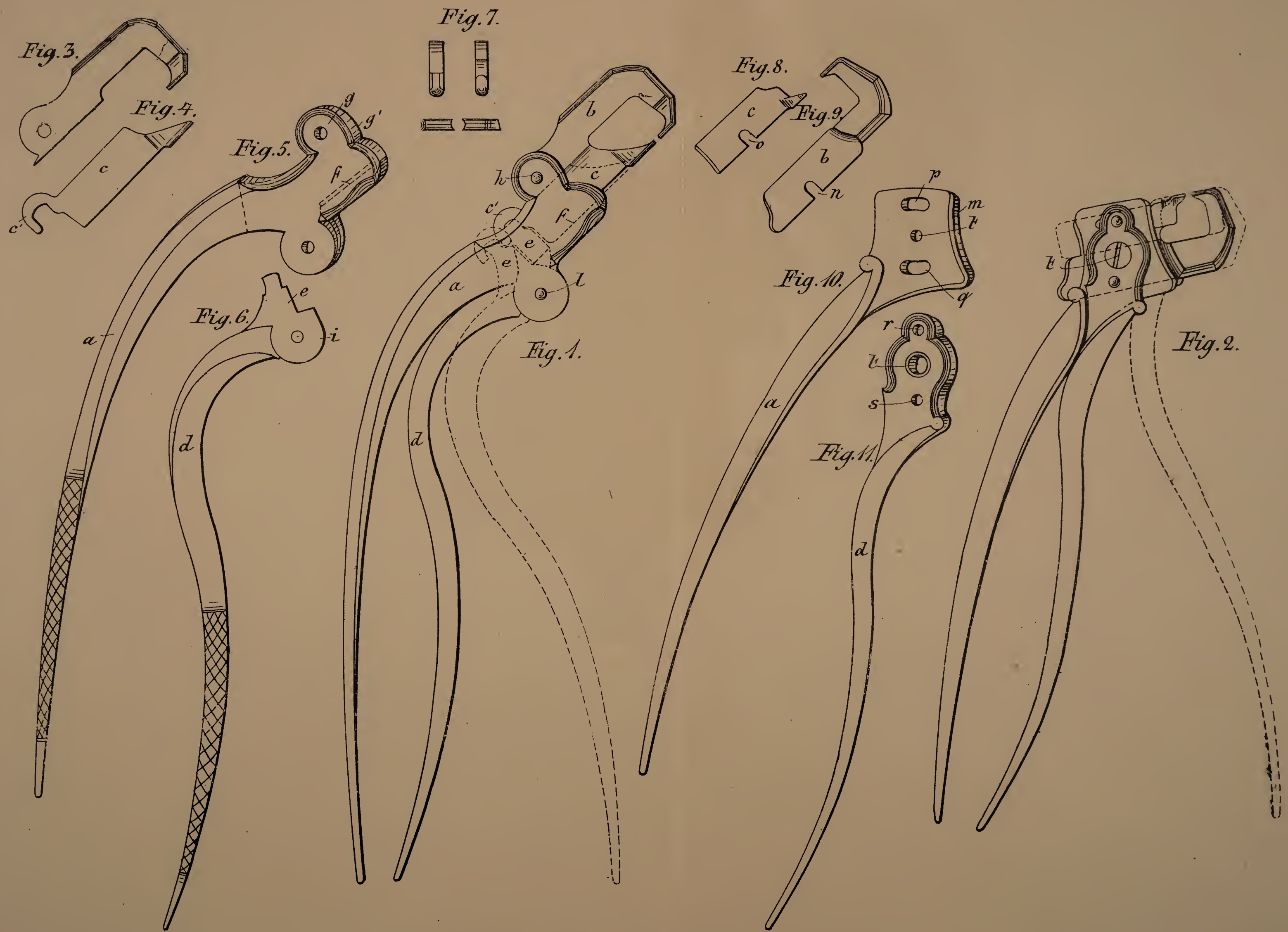
A pair of nippers or forceps for removing the crowns of teeth, characterized by cheeks or slides *b* and *c* provided with cutting edges, one or both of the said cheeks or slides being arranged to slide in the slotted head of one half (*a*) of the nippers or
25 forceps, and the other or both being displaced by the hook *e* or the pins *r* and *s*.

Dated this 27th day of April 1889.

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[This Drawing is a reproduction of the Original on a reduced scale.]

